



XKEYSCORE Workflows

05 March 2009

DERIVED FROM: NSA/CSSM 1-52

DATED: 20070108

DECLASSIFY ON: 20320108



What is a workflow?

- Workflows automate queries.
 - One-time
 - Standing
- Every search type can be a workflow.
 - Same functionality and capability
- Follow on actions
 - Email alert
 - Download actions
 - Metadata summary

Who can submit a workflow?



- Anyone!
- One owner per workflow
 - Multiple-users can be notified
- If ownership needs to be changed, a ticket can be submitted to the team.
- Future: sharing workflows
 - Right now, only the owner has the results in their "My Results" view.



What can I do with a workflow?

- Workflows can be configured to run once
- Workflows can be configured to run daily
 - Every 1, 2, 3, 4, 6, 8, 12 or 24 hours
 - You can set an offset to start running at a certain hour
- Download results
- Email results and email alerts
- MAILORDER results
- MySQL report



Why do I want a workflow?

- XKEYSCORE has a rolling buffer of data
- Repetitive queries
- Sigdev purpose
 - Fingerprint and appid testing
- Queries take a long time during high times
- Follow on actions
 - Google Earth data
 - Statistics
 - Customizable – write a script!

How do I setup a workflow?



This system is audited for USSID 18 and Human Rights Act compliance

TOP SECRET//COMINT//REL TO USA, AUS, CAN, GBR, and NZL//2032018E

XKEYSCORE

Welcome:

[switch users](#)

[Preferences](#) [Help](#)

Navigation Menu

Explorer

Home

Workflow Central

Request

My Workflows

Search

Classic

MultiSearch

Classic A-M

Classic N-Z

Common

Category DNI

Document Metadata

Email Addresses

UserActivity

VoIP

Wireless

Results

My Recent Results

My Previous Results

My Ongoing Results

My Downloads

Statistics

Link Summarization

Tagging

Local Tagging

Tech Extractor Tagging

Welcome to the New XKEYSCORE Home Page!

If you have questions or bug reports please go to [XKEYSCORE New GUI Forum](#)
To use the old GUI, click [here](#)

HUMAN RIGHTS ACT, USSID 18 AND USSID 9

All (SYSTEM) queries require a justification to ensure Human Rights Act (HRA), USSID 18 and USSID 9 compliance. Please enter information as prompted by the query interface. An audit trail has been established and will be searched as part of Menwith Hill Station's response to any complaint brought under HRA and as part of the USSID 18 and USSID 9 process. Please note that SENSITIVE TARGETING APPROVAL (STA) is required for HRA before submitting any query which includes terms specific to a person or company (eg name, address, identity details such as communications address, passport/bank account number) who EITHER (a) is defined as a UK, British Dependent Territory (BDT) or Second Party "person" or (b) is located in the UK, or a BDT or Second Party country. STA is also required for wildcard pulls that are inevitably going to retrieve a substantial proportion of such entities (e.g. wildcarding on a UK city code). Full legal guidance is available from the HRA Compliance Officer at Menwith Hill Station.

This system is audited for USSID 18 and Human Rights Act compliance

TOP SECRET//COMINT//REL TO USA, AUS, CAN, GBR, and NZL//2032018E

How do I setup a workflow?



First, s
workflo

a

A screenshot of a Windows-style dialog box titled "Workflow Central Request Wizard". The dialog has a light blue border and a close button (X) in the top right corner. Inside, there is a section titled "Please select a Search Type." which contains a dropdown menu currently showing "Full Log". To the right of the dropdown is a text box containing the description: "Every session collected, indexed by 'standard' DNI meta-data (to/from IP, port, casenotation, application id, sigad, etc)." Below this section is a "Search Type Help" button. At the bottom of the dialog, there are navigation buttons: "Cancel", "Prev" (with a left arrow), "Next" (with a right arrow), and "Submit".

Workflow Central Request Wizard

Please select a Search Type.

Full Log

Every session collected, indexed by "standard" DNI meta-data (to/from IP, port, casenotation, application id, sigad, etc).

Search Type Help

Cancel Prev Next Submit

How do I setup a workflow?



ring or one-
ist be unique per user
must have a justification
justifications

Workflow Central Request Wizard

Basic Information

Query Name: Find_my_appid

Query Justification: Testing appid signature

Additional Justification:

Miranda Number:

Datetime: 1 Day Start: 2009-03-04 00:00 Stop: 2009-03-05 23:59

Cancel Prev Next Submit

Runs once over
a set datetime
range



How do I setup a workflow?

Select
search

Select a
field to
search

Workflow Central Request Wizard

Add Search Fields

Search Values are **ANDed** by default.

To **OR** Search **Fields**:

- * Use the Multiple Field Search tab (below the input fields).
- * Select all the fields you wish to search.

To **OR** Search **Values**:

- * Type 'OR' between each value (no quotes).

See Search Value Help below for more details or for a description of boolean logic go to [here](#).

Search Field	Search Value	Remove
From IP Address OR To IP Address	1.2.3.4	
Attribute Info		
From IP Address		
To IP Address		
From Port		
To Port		

[Search Value Help](#)

Cancel Prev Next Submit

Want to

or every field,
you must select
the PLUS key



Group by option

- Group by
- Red
- Retu

ta results.

Workflow Central Request Wizard

Group Search Fields

Would you like to group any fields?

☐ No

☒ Yes

Group By Type

Table Unique Values: ☒ [Group By Type Help](#)

Global Unique Values: ☐

Columns to Group By

Datetime: ☐

Client IP (X-Forwarded-For): ☐

Username: ☐

Attribute Info: ☐

From IP Address: ☐

To IP Address: ☐

From Port: ☐

To Port: ☐

From Country (IP): ☐

To Country (IP): ☐

From City (IP): ☐

To City (IP): ☐

From Latitude (IP): ☐

Cancel Prev Next Submit

This option groups each metadata field after a table and concatenates the results.

Select the fields you want to group by.



Select databases

Workflow Central Request Wizard

Select the Database(s) to query

☐ xks- :q0 (xks- :q0)

☐ xks- :qsummary (xks- :qsummary)

☐ Content must exist

☒ Check All

☐ Uncheck All

Basic Features Help

If this is selected, results are only returned if the content still exists at site.

Cancel Prev Next Submit



Follow on Actions

- All
- All
- local
- All

content) to another

Workflow Central Request Wizard

Follow-on Actions

Would you like to add any follow on actions

☐ No

☒ Yes

Script	Script Arguments	Add
Email Alert	Email To: <input type="text"/>	<input style="background-color: #d3d3d3; border: 1px solid #000;" type="button" value="+"/>
Email Alert	ROWR: <input type="checkbox"/> Return Only With Results	
SQL Report		
Download Sessions		

Cancel Prev Next Submit

Any locally saved content
will be uploaded to the
central database.



Email alert

Workflow Central Request Wizard

Follow-on Actions

Would you like to add any follow on actions

☐ No

☒ Yes

Script	Script Arguments	Add
Email Alert	Email To: <input type="text"/> ROWR: <input type="checkbox"/> Return Only With Results	<input type="button" value="+"/>

Cancel Prev Next Submit

Comma delimited email addresses.

This option only sends an email if you workflow has results.



SQL report

Workflow Central Request Wizard

Follow-on Actions

Would you like to add any follow on actions

☐ No

☒ Yes

Script	Script Arguments	Add
SQL Report	<p>Type: <input type="text"/></p> <p>Email To: <input type="text"/></p> <p>Email Subject: <input type="text"/></p> <p>Email Content: <input type="text"/></p> <p>Email Attachment: <input type="checkbox"/> Email Attachment</p> <p>ROWR: <input type="checkbox"/> Return Only With Results</p> <p>Filename: <input type="text"/></p> <p>Mail Order Trigraph: <input type="text"/></p> <p>SQL: <pre>SELECT FROM %{\OUTPUT_TABLE} WHERE GROUP BY</pre></p> <p>GZIP: <input type="checkbox"/> Compress Contents</p>	<p>+</p>

Cancel Prev Next Submit

CSV or HTML

This must be a VALID SQL statement.
Email metadata that a user can set.

Example.

```
SELECT casenotation, sigad
FROM %{\OUTPUT_TABLE}
WHERE sigad!="
GROUP BY casenotation
```




Download Results

Workflow Central Request Wizard

Follow-on Actions

Would you like to add any follow on actions

☐ No

☒ Yes

Script	Script Arguments	Add																		
Download Sessions	<table><tr><td>User ID:</td><td><input type="text"/></td></tr><tr><td>Email To:</td><td><input type="text"/></td></tr><tr><td>Email Subject:</td><td><input type="text"/></td></tr><tr><td>Email Content:</td><td><input type="text"/></td></tr><tr><td>ROWR:</td><td><input type="checkbox"/> Return Only With Results</td></tr><tr><td>Filename:</td><td><input type="text"/></td></tr><tr><td>Mail Order Trigraph:</td><td><input type="text"/></td></tr><tr><td>GZIP:</td><td><input type="checkbox"/> Compress Contents</td></tr><tr><td>Send To Agility:</td><td><input type="checkbox"/> Send To Agility</td></tr></table>	User ID:	<input type="text"/>	Email To:	<input type="text"/>	Email Subject:	<input type="text"/>	Email Content:	<input type="text"/>	ROWR:	<input type="checkbox"/> Return Only With Results	Filename:	<input type="text"/>	Mail Order Trigraph:	<input type="text"/>	GZIP:	<input type="checkbox"/> Compress Contents	Send To Agility:	<input type="checkbox"/> Send To Agility	
User ID:	<input type="text"/>																			
Email To:	<input type="text"/>																			
Email Subject:	<input type="text"/>																			
Email Content:	<input type="text"/>																			
ROWR:	<input type="checkbox"/> Return Only With Results																			
Filename:	<input type="text"/>																			
Mail Order Trigraph:	<input type="text"/>																			
GZIP:	<input type="checkbox"/> Compress Contents																			
Send To Agility:	<input type="checkbox"/> Send To Agility																			

Cancel ◀ Prev

▶ Next Submit



You're almost done!

Workflow Central Request Wizard

Workflow Review

This query (Find_my_appid) will search the **Full Log** table in database(s):
xks-jychan:q0

The query will run **CONTINUOUSLY** executing every **6 hours** beginning at **5:00 EST**

The query will execute the following search criteria:

```
<and>  
  <field>From IP Address</field>  
  <value>1.2.3.4</value>  
</and>  
  
<and>  
  <field>To Port</field>  
  <value>80</value>  
</and>  
  
<and>  
  <field>AppID (+Fingerprints)*</field>  
  <value>search/google*</value>  
</and>
```

Workflow Values Workflow XML

Cancel Prev Next Submit



Workflow Pending

This system is audited for USSID 18 and Human Rights Act compliance
 TOP SECRET//COMINT//REL TO USA, AUS, CAN, GBR, and NZL//20320106

KXKEYSCORE Welcome: jychan [switch users](#)

Home Workflow Central Search Results Statistics Tagging Preferences Help

Navigation Menu

- Explorer
 - Home
 - Workflow Central
 - Request
 - My Workflows
 - Search
 - Classic
 - MultiSearch
 - Classic A-M
 - Classic N-Z
 - Common
 - Category DNI
 - Document Metadata
 - Email Addresses
 - Extracted Files
 - Full Log DNI
 - HTTP Activity
 - Phone Number Extractor
 - User Activity
 - Dictionary Hits
 - File Transfer
 - MultiSearch
 - IP Addresses
 - Misc Address
 - Username
 - Network Management
 - Search Wizard
 - UserActivity
 - VoIP
 - Wireless
 - Results
 - My Recent Results
 - My Previous Results
 - My Ongoing Results
 - My Downloads
 - Statistics
 - Link Summarization
 - Tagging
 - Local Tagging
 - Tech Extractor Tagging

My Workflows

Help Actions

Query Type	Query Name	Last Modified	State	Actions
full_log	Find_my_appid	2009-03-05 14:44:5	pending	

Diagram illustrating the workflow state and actions:

State: pending

Actions:

- checkmark icon
- X icon
- play icon
- stop icon
- trash icon

Page 1 of 1 Page Size: 30 Displaying 1 - 1 of 1

This system is audited for USSID 18 and Human Rights Act compliance
 TOP SECRET//COMINT//REL TO USA, AUS, CAN, GBR, and NZL//20320106



Workflow Approved

This system is audited for USSID 18 and Human Rights Act compliance
 TOP SECRET//COMINT//REL TO USA, AUS, CAN, GBR, and NZL//20320108
 XKEYSCORE Welcome: jychan switch users

Home Workflow Central Search Results Statistics Tagging Preferences Help

Navigation Menu

- Explorer
 - Home
 - Workflow Central
 - Request
 - My Workflows
 - Search
 - Classic
 - MultiSearch
 - Classic A-M
 - Classic N-Z
 - Common
 - Category DNI
 - Document Metadata
 - Email Addresses
 - Extracted Files
 - Full Log DNI
 - HTTP Activity
 - Phone Number Extractor
 - User Activity
 - Dictionary Hits
 - File Transfer
 - MultiSearch
 - IP Addresses
 - Mac Address
 - Username
 - Network Management
 - Search Wizard
 - User Activity
 - VoIP
 - Wireless
 - Results
 - My Recent Results
 - My Previous Results
 - My Ongoing Results
 - My Downloads
 - Statistics
 - Link Summarization
 - Tagging
 - Local Tagging
 - Tech Extractor Tagging

My Workflows

Help Actions

Query Type

full_log

Workflow: Find_my_appid

```
<?xml version="1.0" encoding="UTF-8"?>
<query_jobs>
  <internal_gui>1</internal_gui>
  <datetime_created>1236264295</datetime_created>
  <job>
    <xks_userid>[REDACTED]</xks_userid>
    <xks_user_name>[REDACTED]</xks_user_name>
    <xks_password>18837b706121a0ca</xks_password>
    <search_type>full_log</search_type>
    <query_name>Find_my_appid</query_name>
    <query_justification>Testing appid signature</query_justification>
    <datetime>
      <interval>6</interval>
      <offset>5</offset>
    </datetime>
    <sql>
      <where>
        <and>
          <field>fm_ip</field>
          <value>1.2.3.4</value>
        </and>
        <and>
          <field>to_ap</field>
          <value>80</value>
        </and>
        <and>
          <field>fingerprint</field>
          <value>search/google*</value>
        </and>
      </where>
      <group_by>to_ip</group_by>
      <indexes>unique key(to_ip)</indexes>
    </sql>
    <advanced>
      <content_must_exist>true</content_must_exist>
      <routing>
        <database>xks-jychan:q0</database>
      </routing>
    </advanced>
  </job>
</query_jobs>
```

Cancel Save/Submit

Page 1 of 1 Page Size: 30

Displaying 1 - 1 of 1

This system is audited for USSID 18 and Human Rights Act compliance
 TOP SECRET//COMINT//REL TO USA, AUS, CAN, GBR, and NZL//20320108

log

Wizard

e



Common mistakes

- From IP and To IP with the same value.
- In this view, terms are ANDed together.
- Use Multiple Field Search Tab.

Workflow Central Request Wizard

Add Search Fields

Search Values are **ANDed** by default.

To OR Search Fields:

- * Use the Multiple Field Search tab (below the input fields).
- * Select all the fields you wish to search.

To OR Search Values:

- * Type 'OR' between each value (no quotes).

See Search Value Help below for more details or for a description of boolean logic go to [here](#).

Search Field	Search Value	Remove
From IP Address OR To IP Address	1.2.3.4	
Attribute Info		
From IP Address		
To IP Address		
From Port		
To Port		

Single Field Search **Multiple Field Search**

Search Value Help

Cancel ◀ Prev ▶ Next Submit



Common mistakes

- Using the multiple field search does not break this up into 3 search<->value pairs.
- Enter each term separately in the single fieldsearch.

Workflow Central Request Wizard

Add Search Fields

Search Values are **ANDed** by default.

To **OR** Search **Fields**:

- * Use the Multiple Field Search tab (below the input fields).
- * Select all the fields you wish to search.

To **OR** Search **Values**:

- * Type 'OR' between each value (no quotes).

See Search Value Help below for more details or for a description of boolean logic go to [here](#).

Search Field	Search Value	Remove
From IP Address	1.2.3.4	X
To IP Address	5.6.7.8	X
From Port	80	X
		+



Common mistakes

- This will return ALL casenotations.
 - a will be defeated by “!a” but a does equal “!b”
- All the defeated values must be ANDed together.

Workflow Central Request Wizard

Add Search Fields

Search Values are **ANDed** by default.

To **OR** Search **Fields**:

- * Use the Multiple Field Search tab (below the input fields).
- * Select all the fields you wish to search.

To **OR** Search **Values**:

- * Type 'OR' between each value (no quotes).

See Search Value Help below for more details or for a description of boolean logic go to [here](#).

Search Field	Search Value	Remove
Casenotation	!a	
Casenotation	!b	
Casenotation	!c	
Casenotation	!d	



Common mistakes

Workflow Central Request Wizard

Add Search Fields

Search Values are **ANDed** by default.

To OR Search **Fields**:

- * Use the Multiple Field Search tab (below the input fields).
- * Select all the fields you wish to search.

To OR Search **Values**:

- * Type 'OR' between each value (no quotes).

See Search Value Help below for more details or for a description of boolean logic go to [here](#).

Search Field	Search Value	Remove
Casenotation	lc	✗
Casenotation	ld	✗
SIGAD	AUC-993	✗
		+

Select the Database(s) to query

- ☒ -AUS sites
- ☒ -F6 sites
- ☒ -NZ sites

☐ Content must exist

☒ Check All

☐ Uncheck All

Basic Features Help

- If you are selecting specific SIGADs, only select the sites that have data from that SIGAD.

- Queries will return faster.

Single SIGAD selected

- Less work for the system.



Common mistakes

- If you select the SQL Report option, make sure you put a valid SQL statement!

SQL statement filled in:
 SELECT casenotation,
 count(*)
 FROM %{\OUTPUT_TABLE}
 WHERE casenotation!="
 GROUP BY casenotation

Workflow Central Request Wizard

Follow-on Actions

Would you like to add any follow on actions

☐ No
☒ Yes

Script	Script Arguments	Add
SQL Report	Type: CSV Email To: analyst@work.com Email Subject: My Workflow Results Email Content: Bad SQL - empty Email Attachment: <input type="checkbox"/> Email Attachment ROWR: <input type="checkbox"/> Return Only With Results Filename: Mail Order Trigraph: SQL: SELECT casenotation, count(*) FROM %{\OUTPUT_TABLE} WHERE casenotation!=" GROUP BY casenotation GZIP: <input type="checkbox"/> Compress Contents	+

Cancel Prev Next Submit



Questions?
xks_workflow@r1.r.nsa